



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/973,073

10/10/2001

Yasuhisa Abe

041514-5149

4681

9629

7590

01/09/2004

MORGAN LEWIS & BOCKIUS LLP  
1111 PENNSYLVANIA AVENUE NW  
WASHINGTON, DC 20004

EXAMINER
----------

LOCKETT, KIMBERLY R

ART UNIT	PAPER NUMBER
----------	--------------

2837

DATE MAILED: 01/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/973,073	ABE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Kim R. Lockett	2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 6 and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuke in view of Okazaki et al.

Fuke et al discloses the use of a speaker comprising a voice coil bobbin (11), a voice coil (12) wound around the voice coil bobbin, a diaphragm (10) supported by the voice coil bobbin; and a metallic plate (21) attached to a heat radiating side. Fuke does not specifically say that his metallic plate is attached to a heat radiating side of the diaphragm for radiating heat generated in the voice coil, voice coil bobbin and diaphragm

Okazaki et al discloses the use of a speaker comprising a voice coil bobbin (13), a voice coil (9) wound around the voice coil bobbin, a diaphragm (8) supported by the voice coil bobbin; and a metallic plate (14) that is a heat radiation member (claim 14) attached to a heat radiating side of the diaphragm for radiating heat generated in the voice coil, voice coil bobbin and diaphragm (see column 2, lines 8-20). Regarding claim 10, the diaphragm is dome shaped (see figure 3). Regarding claim 11, the metallic plate(21) does not cover all the heat radiating g side of the diaphragm (see figure 2).

Art Unit: 2837

Regarding claim 12, Okazaki discloses an edge portion around the periphery of the diaphragm (see figure 2).

3. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify to diaphragm as disclosed by Fuke and the position as disclosed by Okazai in order to provide a light weight voice coil.

4. Claims 7-9, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuke in view of Okazaki et al and Inoue.

5. Fuke and Okazaki does not disclose the use of a diaphragm molded by injection molding, metallic elements or a recess portion to receive the metallic plate.

Inoue discloses the use of a speaker diaphragm main body from a resin made by injection molding (claim 7); and a metallic plate(16-19) where the metal plate has a plurality of elongated metal elements(claim 8) that radially extend from the bobbin(11). The diaphragm as disclosed by Inoue also discloses the use of a recess portion(claim 9) to receive the metal plate (see figure 2) and has a dome (6) and conical shape.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify to diaphragm as disclosed by Fuke and the position as disclosed by Okazai and the with the injection molding, recess portion and metallic elements as disclosed by Inoue in order to reproduce clear sounds with good audio characteristics.

***Response to Arguments***

6. Applicant's arguments filed 10/14/03 have been fully considered but they are not persuasive. In response to the applicant's arguments, Fuke et al clearly the use of a speaker comprising a voice coil bobbin (11), a voice coil (12) wound around the voice coil bobbin, a diaphragm (10) supported by the voice coil bobbin; and a metallic plate (21) attached to a heat radiating side. Okazaki et al clearly discloses the use of a heat radiation member (14) extending to and at the edge on a heat radiating side of a diaphragm for radiating heat generated in the voice coil, voice coil bobbin (not shown) and diaphragm (see column 2, lines 8-20). Okazaki clearly discloses that heat radiation members are well known in the art. The applicant is reminded that the fact that the prior art's recitation and reasoning of radiating heat is different from that of the applicants, it does not alter the conclusion that it's use in a prior art device would be prima facie obvious from the purpose disclosed in the reference. In re Lintner, 173 USPQ 560.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 2837

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry of a **general nature or relating to the status of this application or filed papers** should be directed to the **Group receptionist whose telephone number is (703) 308-0956.**

Papers related to this application may be submitted to Group 2800 by facsimile transmission. Papers should be faxed to Group 2800 via the PTO 2800 Fax Center located at Crystal Plaza 4. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 O.G. 30 (November 15, 1989). The Group 2800 CP 4 Fax Center number is (703) 308-77(22 or 24). Fax numbers that provide an auto-reply fax receipt are: for before finals (703) 872-9318 and after finals (703) 872-9319.

For assistance in **Patent procedure, fees or general Patent questions** calls should be directed to the **Patents Assistance Center (PAC) whose telephone number is 800-786-9199.** Assistance is also available on the Internet at [www.uspto.gov](http://www.uspto.gov).


For requesting **copies of Cited Art, Office Actions or the like, or General Problem solving**, calls should be directed to the **TC 2800 Customer Service Office whose telephone number is 703-306-3329 or by fax at 703-306-5515.**

Art Unit: 2837

Any inquiry concerning **this communication or earlier communications** from **the examiner** should be directed to **Kim Lockett** whose telephone number is **(703) 308-7615**. The examiner can normally be reached on Monday through Thursday from 7:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi, can be reached on (703) 308-3370.

*Kim Lockett*  
*Patent Examiner*  
*Art Unit 2837*

  
**KIMBERLY LOCKETT**  
**PRIMARY EXAMINER**

y